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AUTHOR Eberts, Paul; Khawaja, Marwan
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ABSTRACT

Conceptualizing high local fiscal stress as a variable which includes low fiscal capacity, high local tax effort and high local need requires building a typology reflecting this conceptualization. This study builds such a typology for 166 counties in the northeastern United States and examines the effects of variables taken from a series of popular hypotheses regarding local fiscal stress. Findings show that the category with the largest effect on local fiscal stress is per capita expenditures for highways. Other causal factors include: high local demand for services (e.g. education, welfare); location (rural localities suffer from more local fiscal stress than metropolitan localities); high local needs (e.g. unemployment and crowded housing); and high centralization of formal political influence and authority. However, local fiscal stress is comparatively lower in manufacturing localities, and state intergovernmental revenue transfers to localities generally reduce inequalities in fiscal stress. Suggested policy implications to enhance distributive justice regarding local fiscal stress are that states should transfer more funds to highly stressed localities particularly for highways, but also for schooling and welfare. In addition, localities should try to create more accountability in their local budgeting process rather than to concentrate power in the hands of their elected officials. (JMM)

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LOCAL FISCAL STRESS IN U.S. NORTHEAST COUNTIES

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June 1987 Bulletin No. 149

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Paul Eberts and Marwan Khawaja
Department of Rural Sociology
New York State College of Agriculture and Life Sciences
Cornell University
Ithaca, New York

Abstract

High local fiscal stress has been conceptualized as a variable which includes low local fiscal capacity, high local tax effort, and high local need. Such a definition requires building a typology reflecting this conceptualization. The present study builds such a typology for 166 U.S. Northeast counties, and then examines the effects of variables gleaned from a series of popular hypotheses regarding local fiscal stress. A major finding is that local fiscal stress is due primarily to comparatively high local highway expenditures. Other causal factors include high local demand for services, rural location, high local needs in terms of unemployment and crowded housing, and high concentration of formal political influence. On the other hand, local fiscal stress is comparatively lower in manufacturing localities, and by state intergovernmental transfers to localities. Suggested policy implications to enhance distributive justice regarding local fiscal stress are that states should transfer more funds to high stressed localities for highways, especially, but for other functions as well such as schooling and welfare. In addition, localities should try to create more accountability in their local budgeting process rather than concentrate power in the hands of even their chief elected officials.

*This study is a contribution to the USDA Hatch Regional Project, NE-151, Fiscal Austerity and Its Consequences in Local Governments, from the New York-Cornell Agricultural Experiment Station.

I. INTRODUCTION

Much has been heard about poor fiscal conditions in the U.S. government. Much has been heard about poor fiscal conditions of certain U.S. banks, especially Savings and Loan Associations. Much has been heard about poor fiscal conditions among U.S. farmers. Much has been heard about poor fiscal conditions in certain U.S. metropolitan places. Very little has been heard about poor fiscal conditions among local governments in U.S. rural places.

If all these other U.S. institutions are suffering in their fiscal conditions, however, then it is quite probable that rural localities similarly suffer from symptoms of poor fiscal conditions. Scattered evidence supports this proposition (cf. Lassey, 1982; Reeder, 1984; Eberts, 1985; and Obern, 1987).

Undoubtedly, part of the problem concerning the extent of fiscal stress in rural localities is the definition of stress itself. Politicians constantly imply something like, "Another tax increase will be the straw which breaks the camel's back." Yet, one organization's stress may be another organization's consolation. Such statements imply that a significant problem is to define the elements of fiscal stress.

For instance, tax rates in Europe are generally 25-50 percent higher than those in the U.S. (Shonfield, 1980). People there no doubt feel burdened, but much less "tax revolt" seems found there than in the U.S. Perhaps, then, the definition of stress is less of an ideological issue than one of comparisons between localities.

The present study offers:

1. a theoretical definition of local fiscal stress;

2. a measure of it based on data for 166 counties in the U.S. Northeast;

3. some empirical causes (variables) of local fiscal stress; and

4. some implications of the findings on governmental policy options for dealing with localities' fiscal stress.

II. Defining Local Fiscal Stress

A variety of definitions and measures have been used in attempts to capture the notions of local fiscal stress (cf. ACIR, 1971; Reeder, 1984; Obern, 1987). They range from pointing to simple indicators using the per capita tax rate to a complex factor analysis of a variety of indicators, dealing with local short-and long-term debt (ACIR, 1971; Clark, et al., 1976). All such measures are based on underlying notions about the nature of local fiscal stress.

Yet these measures sometimes produce confusing results (cf. Eberts and Lifton, 1985). This is due to different theoretical notions underlying the nature of local fiscal stress. High per capita tax rates, for instance, may not represent stress in localities which also have high per capita income. Likewise, some localities borrow money regularly for short terms in order not to disturb other reserve accounts (and the investments using these reserve accounts). Moreover, long-term debt is sometimes undertaken because localities wish to invest these funds in establishing infra-structure for longer term development. Investment in roads, industrial parks, airports, and other facilities are often locally justified in investment terms. None of these measures per se, then, denotes high fiscal stress, even if some localities do engage in such activities.

Reeder (1984) offers a more theoretical definition of local fiscal stress which helps to deal with some of the inconsistencies. He maintains that local fiscal stress is a situation when localities have high tax effort, low fiscal capacity, and high physical and social needs. Local fiscal stress, then, is not an absolute condition, but is a condition relative to other localities. No particular "straw will break the camel's back." Certain situations may show considerable inequality, and perhaps therefore cry out for more "distributive" justice. Thus, local fiscal stress situations are usually relative, and not absolute.

Reeder's notions underlie the dependent variable in this study. The perspective taken here is that local fiscal stress conditions are, in general, comparative between localities, and do not depend upon a simple general condition such as a high local property tax rate. At least three conceptually identifiable and separable conditions will exist in the highest stressed localities. The highest stressed localities are those with comparatively high local tax effort, comparatively low local fiscal capacity, and comparatively high local physical and social need (which are translatable to financial conditions).

This conceptual trilogy of local fiscal conditions--effort, capacity, and need--naturally requires putting a number of different indicators into a single variable. Yet, to put three conceptually different variables, each with multiple potential indicators, together into a single indicator is not an easy task (cf. Eberts and Lifton, 1985).

Such a problem normally calls for some sort of factor analytic solution. Clark, et al. (1976), Obern (1987), and Eberts and Lifton (1985), undertook such an approach. Factor analysis does offer a method for producing several different indicators (factors), which often include sub-indicators of the three components in one or more factors. But, the nature of factor analysis is to produce indices where indicators converge or cluster, rather than to meet precise theoretically defined conditions (cf. Eberts and Lifton, 1985).

Consequently, most factors produced using factor analytic techniques divide localities on the dimension of high effort, high capacity, and low needs--or its opposite, low effort, low capacity, high needs (Eberts and Lifton, 1985; Obern, 1987). Localities with high scores on the low end of such a scale are clearly more stressed than their opposite. But neither end of such a factor continuum meets the criteria established by Reeder (1984), namely, one of high effort, low capacity, and high needs. The latter type of measure demands a typological rather than factor analytic approach (cf. Blalock, 1969, Appendix A).

From these considerations, the measure chosen as the dependent variable in this study is based on only two of Reeder's three dimensions, namely, high effort and low capacity. The measure was created through a cross-tabulation typology of effort and capacity, breaking each contributing dimension into quartiles. To add a third dimension, of need, to such a typology greatly complicates such a typology (cf. Eberts and Lifton, 1985).

Moreover, many dimensions of need, at least in the U.S. Northeast, correlate highly and inversely with certain measures of capacity, such as the one (median family income) we have chosen below. For instance, median family income correlates with percent of families in poverty at a collinear -.84, and with unemployment rates at -.67.

One way out of the collinearity problem is to find a measure which reflects need, but which is not collinear with indicators of the dependent variable. As can be seen in the next section of this paper, a need indicator will be included as part of the predictive model for local fiscal stress. In this way, need will not be omitted from consideration, even if it does not contribute directly to the actual measure of local fiscal stress (our dependent variable).

Even using only two of the trilogy of concepts to define local fiscal stress, the issue remains to decide which indicators best capture the notions of effort and capacity. Probably most people think of the property tax rate as the best indicator of local fiscal effort. Despite the passage of Proposition Two and One-Half in Massachusetts, most localities in the Northeast probably raise the bulk of local revenues through property taxes. Moreover, such data are readily available for analysis in the County and City Data Book (1983).

Likewise, we chose median family income to be the indicator of local fiscal capacity. Some researchers would probably argue that total local real property assessment or valuation might be a better measure (cf. Clark et al., 1976). The biggest problem with this measure is that it does not differentiate between business, industrial, and dwelling unit assessments. When businesses pay most of the taxes, people and their communities are probably less stressed. Moreover, data on these measures are not as readily available.

Consequently, we believe that median family income represents an adequate (if not the single best) measure of local fiscal capacity. It also has a need component in it, since lower median family income probably implies higher need. In other words, lower capacity using this indicator probably also reflects higher need. To use median family income as the component for capacity, then, takes some burden from our decision not to include a separate measure of need into our empirical definition of local fiscal stress.

Table 1 presents the data on which the local fiscal stress measure is based. Median family income represents the local capacity (and need) measure, and local property tax rates represents the local effort measure. Each of these is divided into quartiles, and cross-tabulated to build a typology.

The 19 counties with highest local fiscal stress are those in the lower left-hand corner. These are the ones in the upper two quartiles of effort, but in the lowest two quartiles of capacity. The 12 counties with the lowest local fiscal stress are those in the upper right-hand corner of the table. These 12 counties are in the highest two quartiles of capacity, and in the lowest two quartiles of effort.

The remaining 135 counties are in more middling conditions. Since the 68 counties on the main diagonal in table 1 are in the middle they receive a middle score of three on the five-point fiscal stress scale. The 26 counties immediately below and to the left of the diagonal are in the middle high stress category and receive a score of 4 on the stress scale; and the 41 counties to the right and immediately above the diagonal are in the middle low stress category and receive a score of 2 on the stress scale.

Table 1. The Measure of Local Fiscal Stress: Cross-Tabulation of Per Capita Local Government Taxes, 1977, by Local Median Family Income, 1979, in Quartiles, for U.S. Northeast Counties.

Local Fiscal Effort: Quartiles, PC Local Govt Taxes, 1977	Local Fiscal Capacity Quartiles, Median Family Income, 1979				
	1	2	3	4	Total
	Lowest			Highest	
1 Lowest	21	11	8	1	41
2	9	15	15	3	42
3	10	7	9	15	41
4 Highest	1	8	10	23	42
Total	41	41	42	42	166

Highest Local Fiscal Stress--Low Capacity, High Effort (Score 5)

Moderate (Middle) Local Fiscal Stress: Effort Congruent with Capacity (Score 3)

Lowest Local Fiscal Stress: High Capacity, Low Effort (Score 1)

Thus, the typology offers a five-point scale for further analysis. Moreover, the five scale-points are reasonably normally distributed, with a slight skew toward being in less of a local fiscal stress situation. In any case, enough localities are found in each point on the scale that the measure warrants consideration as a dependent variable.

III. Identifying Causes of Local Fiscal Stress--Toward Building a Model of Local Stress

The causes of local fiscal stress can be identified through a set of questions. Each question contains an implied hypothesis as a cause of local fiscal stress. In Section IV each of these hypotheses will be examined with data separately, and then controlling for the effects of all other causes.

A first question is, Does local fiscal stress occur more frequently in metropolitan or rural places? Again, the scattered evidence cited above indicates that rural localities should experience local fiscal stress more frequently than either suburban or metropolitan localities (Obern, 1987). Obern's measure, based on factor analysis, however, is different from the one used here. Moreover, her sample was on 57 New York State counties, whereas ours has 166 U.S. Northeast counties. Consequently, the question is still important whether her findings will be supported under these different conditions.

A second question, often asked by local politicians, is, Do local expenditures for certain budget items make a difference in causing local fiscal stress? In general, politicians usually append a next question, namely, Are welfare expenditures the primary cause of local fiscal stress?

We will examine various budget expenditure items--those readily available through the County and City Data Book--in order to evaluate the question of the relation between local budget expenditure items and local fiscal stress. It may be, for instance, that welfare is not the primary expenditure cause of local fiscal stress. Some other set of causes, such as health and hospital, education, police and public safety, or highway expenditures may be more highly related to local fiscal stress.

A question related to expenditures deals with state-mandates--Are state-mandated programs contributory to local fiscal stress? Many politicians in Vermont (some of whose counties are in our sample), as well as elsewhere, maintain that such state-mandated programs are often put in place without adequate state funds being attached to them (Schmidt, 1986). We will examine this question, at least in part, by looking at the effects of inter-governmental revenues on our measure of local fiscal stress. If state inter-governmental transfers are inadequate, then a negative relationship should appear between this indicator and our measure of local fiscal stress.

Another set of questions involves political variables, Do local politics make significant differences in accounting for local fiscal stress? Clark and Ferguson (1983) find that some metropolitan places simply spend more than they should, claiming that their constituents demand such services. If this is a general case, then localities with higher local electoral participation, as an indicator of local demand, for instance, might tend to spend more than those localities with lower participation. If this would happen, then such participation might also be validated as an indicator of demand for services.

Likewise, Young, et al. (1984) find that localities with Democratic leadership also tend to spend more, especially for local public humanitarian services such as education, health, and welfare, than those places with Republican leadership. Democrats have traditionally tried to respond to constituents who are less advantaged in localities by offering more public services to meet at least some of the needs of their constituents who are middle-income and below.

Another related question is, Does centralization of local government make a difference? Such centralization has facilitated in urban renewal success and other development-type programs (Hawley, 1963; Aiken and Alford, 1970). Urban renewal, of course, can also be interpreted as short-term investment in the hope of long-term growth. But short-term investment can also mean short-term local fiscal stress. A more centralized set of procedures in local government can result in decisions being made, which are more likely to be indirectly influenced by private interests, and less likely to receive review by the general public.

The mayor's role in the municipal local budget process, therefore, represents a potential measure of local government centralization. Where the mayor plays the primary role in the local municipal budgeting process, then local government may be considered more centralized than where the mayor and others are equal partners in the local budget process.

An alternative indicator concerns the role of the local government bureaucracy in affecting local fiscal stress. Some commentators believe that an entrenched and powerful local bureaucracy often acts like a self-fulfilling prophecy (cf. Ostrum, 1974). One of the Peter principles characterized such a situation with the statement, "Bureaucracies expand to use up the available resources." In our situation, mayors rated the relative influence of bureaucracies versus other local actors in their influence on local issues. When they rated bureaucracies as more influential, we assume that the bureaucracies are also more powerful in achieving their self-perpetuating goals at the expense of local fiscal stress.

Another alternative indicator of informal local government centralization, using the same source, is a gauge of the relative influence of local businessmen, bankers, lawyers, and other key individuals in their effects on local politics. Molotch (1976) and Domhoff (1983) believe that representatives of such institutions often can exert their power in localities in order to achieve their private-interest goals, while draining public coffers in the process. This hypothesis will also be examined in our analysis.

Another important set of questions is, Does the local economic-export base (or industrial structure) affect local fiscal stress? The local export base is often considered the primary means through which localities remain viable (Hawley, 1950; Isard, 1975, Richardson, 1973). Many industries can be said to contribute to the local export base, including agriculture, manufacturing, education, finance-insurance-real estate services, retail-wholesale trade, government employment, and so forth.

Several aspects of the local export base can be examined using data from the County and City Data Book. The several measures based on per capita earnings (or their equivalent) in the various local industrial sectors will be used as the indicators of strength in the local export base. In general, a strong local export base is one which shows high readings on any of the per capita indicators no matter which of the above industries is predominant. A strong per capita measure (such as being in the upper quartile of distribution on these indicators) represents a viable local industry of some sort. Thus, it is expected that places which have a viable local export base will experience less fiscal stress than those localities which have no predominant export base at all.

Another question concerns the issue of need, namely, Will those localities with greater needs show greater fiscal stress than those localities with fewer needs? As mentioned above, the dependent variable itself captures some aspects of need. Still, one indicator of need not based exclusively on income, is crowded housing--the percentage of occupied dwelling units with 1.01 or more persons per room. It correlates with median income at -.45 among our 166 counties, and thus represents a somewhat different dimension of need.

In general, of course, we expect that counties with greater need will also show higher levels of local fiscal stress.

These are the questions, then, to be examined through multivariate correlation and regression analysis, using 166 counties of the 300 counties of the U.S. Northeast (including those within a boundary as far south as Washingon, D.C., and as far west as West Virginia and the Ohio River). These counties were used because these are the ones where the mayor of the largest city and/or the county seat, returned a mailed questionnaire on local political life in 1980 (cf. Kelly, 1983; Eberts and Kelly, 1985). The 166 counties represent a decent sample of all 300 counties when looking at their distribution by the rural-suburban-metropolitan county typology, with only a slight rural bias (cf. Kelly, 1983).

Moreover, each independent variable was examined regarding its general linearity through cross-tabulation analysis with the dependent variable of local fiscal stress. Nearly all were found to be reasonably linear. The one least linear in its relationship (the rural-suburban-metropolitan typology) was transformed to make it more linear by moving the most metropolitan counties to the fourth category (from the sixth) on a six-point scale. Thus, small metropolitan counties show least fiscal stress, large suburban counties second-least, large metropolitan third-least, large rural fourth-least, small suburban fifth-least, and small rural the most fiscal stress.

IV. Examining Causes of Local Fiscal Stress

Each question above is a statement of implied causal relation between at least one variable and the dependent variable of local fiscal stress. Thus, it is appropriate to use correlation and regression analyses in order to assess whether such implied causal relations have any support in these data.

Correlation Analysis. An analysis assessing causal influences usually begins with a set of correlations. Table 2 offers these correlations, and, in itself, provides some answers to the above questions.

Table 2. Correlations of Hypothesized Causal Factors with Local Fiscal Stress, 166 U.S. Northeast Counties, ca. 1980.

Correlations with column 204 LocFiscalStress-MFI by PCLocalGovtTaxes

Column	Label	N	Correlation	R Squared	Prob |r|=0
206	rMetroLocalTypol re Loc	166	-0.2359	0.0556	0.002
188	PCAP Tot Exp 1977	166	0.3021	0.0913	0.000
189	PCAP Educ Exp 1977	166	0.2549	0.0650	0.001
190	PCAP HiWay Exp 1977	166	0.5733	0.3286	0.000
191	PCAP Welfare Exp 1977	166	0.2311	0.0534	0.003
192	PCAP Health Exp 1977	166	0.0192	0.0004	0.806
193	PCAP Security Exp 1977	166	0.1165	0.0136	0.135
184	PerCap State Intergov't	166	0.0792	0.0063	0.310
134	Partic'n-%VotingPres198	166	0.3174	0.1007	0.000
137	rCompParticTypol-1=lolo	166	0.3132	0.0981	0.000
174	Pluralism-Sum,GrpsInflu	166	-0.0011	0.0000	0.989
130	WinParty -Pres vote 198	166	0.1111	0.0124	0.154
157	IndexNon-ReformGovt: 1=	166	-0.1451	0.0211	0.062
162	BudgetRoleMayor:1=None;	166	0.1399	0.0196	0.072
176	I-Bank,Merch,Lawvers.ke	166	0.0343	0.0012	0.661
177	II-PartiesInfluence:-2.	166	-0.1458	0.0213	0.061
178	III-BudgOffs,Empl'esInf	166	0.0467	0.0022	0.550
73	%PopChange70-80/70*100	166	0.0372	0.0014	0.634
44	%Unemployed1980: 1.9 to	166	0.1284	0.0165	0.099
46	%Families in Poverty, 1	166	0.1825	0.0333	0.019
32	%CrowdedHsing-1.01+Pers	166	-0.0004	0.0000	0.996
126	zscrPCFarm Earnings 198	166	0.2045	0.0418	0.008
127	zscrPCMfgingPayroll 197	166	-0.2011	0.0404	0.009
120	zscrPCBankDeposits 1977	166	0.2813	0.0791	0.000
125	zscrPCFedGovEmpl'eesEar	166	0.0313	0.0010	0.687
118	zscrPCRetailSales--C206	166	0.0690	0.0048	0.377
119	zscrPCWholesale Sales 1	166	0.0635	0.0040	0.418

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Table 2 is organized according to the above questions. The first variable is a 6-point measure of the rural-suburban-metropolitan location of each county. The scale is based on the percent urban in the county and the extent of commuting to or from it (cf. Eberts, 1984). As seen in table 2, the correlation with local fiscal stress is -.24, indicating that small rural (or suburban) counties experience greater fiscal stress than large suburban or metropolitan counties. The largest metropolitan counties experience almost as much fiscal stress as the rural counties. Smaller metropolitan counties, and the larger suburban counties with high commuting rates, experience the least fiscal stress.

The third set of indicators in table 2 are those based on various local budget expenditure categories. As can be seen, counties which spend more money in nearly every category, including the total of local per capita expenditures, experience more fiscal stress.

The category with the largest effect on local fiscal stress is per capita expenditures for highways, at .57. Since rural counties, in general, spend more per capita on highways than the other county types (but with a correlation of only .06), this finding fits with the other finding about rural-suburban-metropolitan location as an important cause of local fiscal stress. But expenditures for roads and highways are much more strongly correlated than the location measure, and thus have more effects on local fiscal stress.

None of the other per capita local government expenditures reached above .30. Per capita education expenditures at .25, and welfare expenditures, at .23, are the next most highly correlated. Thus, local educational expenditures and welfare expenditures probably do contribute to local fiscal stress, but at lower levels than local highway expenditures. Moreover, education expenditures and welfare expenditures are rather highly correlated (at .45).

The fourth measure is per capita intergovernmental revenue received from the state. This indicator attempts to measure the effects of state-mandated programs on local fiscal stress. When state intergovernmental revenues are high, then probably the state is mandating more programs for localities, and may not be paying for as much of their costs as the mandates call for, at least so public officials often believe, and these data weakly show (but at only .08) such a relationship. Thus, localities must make up the deficit, and this situation puts them in fiscal stress.

Still, the data give only moderate support to this reasoning about state mandates. The .08 correlation in table 2 would indicate that, where localities receive more state funds, they do experience more local fiscal stress, but the relationship is so weak that it explains very little of the dependent variable. Moreover, the measure is also collinear with expenditures for education, and for welfare, at .59 and .55, respectively. Many of the funds localities receive from the state are for education and welfare programs.

Thus, the states of the Northeast seem to recognize the possibility of local fiscal stress in certain localities, and have taken some steps to ameliorate this stress through offering more funds to localities than they might otherwise have. Still, the positive correlation with local fiscal stress also tends to give some support to the notion that states do not pick up their share of the costs of state-mandated programs. (We will see in the multivariate regression analysis below, however, at least one reason to doubt this last conclusion.)

The fifth set of measures in table 2 are those concerned with the effects of local governments and politics. A great many indicators are possible for this set. In fact, about as many were run, and discarded due to low correlations with the measure of local fiscal stress, as appear here. Some of those discarded include the factor score indicating the mayors' perceptions of the influence of local bankers, merchants, lawyers, and key individuals (.03); another factor score of mayors' perceptions of the influence of the local bureaucracy's chief budget officer and employees (.05); and a mayoral activism typology regarding mayors' roles in stimulating local participation and contacts with state and federal agencies (-.03).

Thus, some of the reasoning presented in the previous section does not find empirical support in these data. On the other hand, a number of other political indicators do show statistical significance with local fiscal stress.

Those remaining are shown in table 2. The extent of local participation (percentage voting) in the 1980 Presidential election is the most strongly correlated with local fiscal stress at .32. Moreover, when the local administration is more Democratic in orientation, then these localities show greater fiscal stress, at .11. Next is mayors' role in the local budget process at .14--when mayors are alone more responsible for formulating the budget, their localities show greater fiscal stress. Also, when the locality has a more "reform" type government--of small

council size, elections at-large rather than by ward, and non-partisan elections (where the major parties do not run candidates in local municipal elections)--then these localities are most likely to experience local fiscal stress, at .15 (the measure in table 2 is for an index of non-reform government).

In general, then, the localities with politics associated with more centralized governments (except for the percent Democratic) show greater local fiscal stress. Such a finding is contrary to most of the reasoning presented in the previous section.

The sixth set of indicators are those associated with local export bases. Again, many were discarded from table 2 due to low correlations with the local fiscal stress measure. For instance, per capita retail-trade sales correlated at a statistically nonsignificant .07, and per capita wholesale-trade sales correlated at only .06.

On the other hand, per capita bank deposits correlated at .28, showing that banking centers have more fiscal stress; and per capita manufacturing payroll correlated at -.20, showing that manufacturing centers had less local fiscal stress. Likewise, per capita farm earnings correlated at .20, again showing that the productive farming counties had greater local fiscal stress.

The final indicator was one of need, but our measure of crowded housing showed no effect on local fiscal stress, at .00. Localities with greater percentages of crowded housing--the percentage of all occupied houses with over 1.01 persons per room--showed no more local fiscal stress, than any other counties.

Another indicator of local need which is correlated with local fiscal stress is the unemployment rate at .13; and another is percent of families in poverty at .18. Although both these indicators correlate slightly at above .45 with median family income, they show only these moderate correlations with fiscal stress.

As noted throughout above, many of these indicators are highly correlated with each other. Under conditions of such high correlation (collinearity), Blalock (1969:72) suggests using a block model. A block model is one where a set of relatively highly intercorrelated variables is built, but where only one indicator from each block is used in further regression analysis (cf. also Obern, 1987).

Regression Analysis. Figure 1, based on tables 2 and 3, presents the initial stage of a path-type model based on table 2. The model includes at least one variable from each of the questions--hypotheses--offered in section III above.

Figure 1 endeavors to produce the most parsimonious model of statistically significant variables while still maintaining the highest explained variance (R-square). It includes variables which were not collinear with other variables, maintained statistical significance at a probability of less than .10, and contributed an R-square of at least .015. Collinearity here was set at .50 or above. Such a cut-off point may be a little low, but in general, it prevents the problems of multicollinearity which often plague regression analysis (Kerlinger and Pedhazur, 1973).

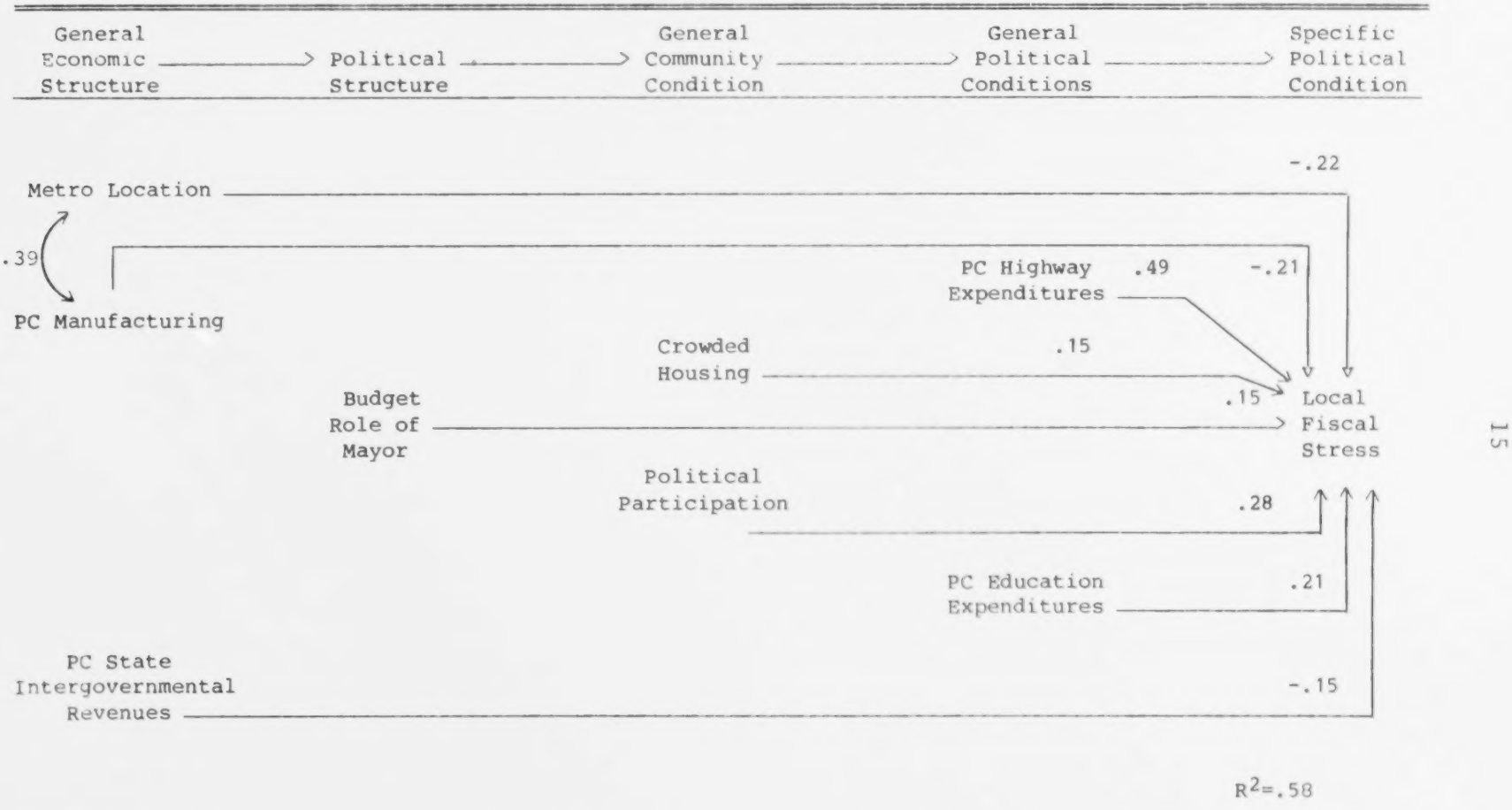
Several iterations were required to produce a model meeting these conditions. Of the seven variable sets in figure 1, several indicators dropped out of the final regression analysis. Some of them dropped out due to being correlated at lower significance levels with local fiscal stress, others due to being indicators highly correlated with other indicators of a larger block.

The remaining indicators were arranged as shown in figure 1. Figure 1 represents a potential multi-stage path model. It is a "potential" model because no attempt was made to include any variable in it which was not statistically significant with the dependent variable of local fiscal stress.

The variables in figure 1 are arranged according to a "normal science paradigm" of community research (cf. Kuhn, 1970; Clark, 1973). In it, community economic and political structural variables are assumed to cause general aggregate community and political variables, which, in turn, are assumed to cause a specific community condition (cf. Eberts and Young (1971).

Thus, economic export base variables are assumed to cause community political structural variables; these two sets cause certain community conditions, including need and political policy variables; all of which in turn cause specific political behavioral variables, such as local fiscal stress. Through such a model it is possible to assess some indirect effects as well as direct effects even if all the variables in the model (except per capita state intergovernmental revenues) are correlated at less than .50 (as a condition of being in the model).

Figure 1. Model of Direct Effects on Local Fiscal Stress, 166 Northeast U.S. Counties, ca. 1980.*



* The coefficients on the single-headed arrows are standardized regression (beta) coefficients, computed by ordinary least squares; the coefficient of the double-headed arrow is a Pearson's product moment coefficient. Only statistically significant coefficients at $p < .05$ are reported.

Table 3. Multiple Regression Analysis of Local Fiscal Stress, 166 U.S. Northeast Counties, ca. 1980.

Mult. Regression (Variable Selection)

Dependent variable (204) :LocFiscalStress-MFI by PCLocalGovtTaxes

List of independent variable column numbers in use

Col(190) PCAP HiWay Exp 1977	Col(189) PCAP Educ Exp 1977
Col(134) Partic'n-%VotingPres1980:	Col(44) %Unemployed1980: 1.9 to 1
Col(162) BudgetRoleMayor:1=None;2=	Col(206) rMetroLocalTypol re Local
Col(127) zscrPCMfgingPayroll 1977-	Col(194) LogPC State Intergovt Rev

Mult. Regression (Multiple Regression Report)

Report for Variable 204 LocFiscalStress-MFI by PCLocalGovtTaxes

Column	Parameter Estimate	Standard Error	β	t-value (b=0)	Prob. b=0	Sequential R-Squared	Simple R-Squared
Constant	1.079982						
Col(190)	1.707185E-02	2.408841E-03	.44	7.09	0.000	0.3286	0.3286
Col(189)	3.378779E-03	8.759077E-04	.30	3.86	0.000	0.3286	0.0650
Col(134)	4.121468E-02	8.093441E-03	.28	5.09	0.000	0.3761	0.1007
Col(44)	.1057806	2.586286E-02	.25	4.09	0.000	0.4369	0.0165
Col(162)	.1618207	5.477198E-02	.16	2.95	0.004	0.4506	0.0196
Col(206)	-.1310074	3.913093E-02	-.20	-3.35	0.001	0.5095	0.0688
Col(127)	-.2283861	6.598859E-02	-.21	-3.46	0.001	0.5346	0.0445
Col(194)	-1.36208	.3497154	-.28	-3.89	0.000	0.5757	0.0003

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The model would certainly be a more complete path model if other variables to explain the ones in figure 1 would also be included. But then the model would probably become so complex that it could not be presented on a one-page figure. Such a detailed task, then, remains for further research.

The first substantive finding in figure 1 is the relatively large amount of variance explained. Fifty-five percent of variance is explained using the eight variables shown when all 166 cases are included in the analysis, and rises to 65 percent after 13 outlier cases (found through analysis of the residuals) are excluded from the model. This is a rather large amount of explained variance for a model where the dependent variable is only a five-point scale.

A second noteworthy finding in figure 1 is that, even if per capita highway expenditures dominates the model, significant variables are found in each of the paradigmatic concepts in the model. In other words, some statistically significant variables can be classified under each of the general headings in the "normal science community analytic paradigm" which forms the basis of this study. Thus, it also becomes possible to examine certain indirect effects in figure 1 through multi-stage path analysis. Naturally, not all indicators of each general concept are statistically significant with the others, but it is still noteworthy that these particular ones are significant.

A third noteworthy finding regards the one variable which dominates the dependent variable of local fiscal stress, namely per capita local expenditures for highways. This variable has a beta (standardized regression coefficient) of .49, and alone explains over 30 percent of the variance in local fiscal stress (see table 3).

Per capita expenditures for highways, according to the intercorrelation matrix of table 4, however, does not stand entirely alone. It is part of a block which also includes welfare expenditures (at .52), per capita expenditures for education (at .45, which is not quite collinear under our .50 cut-off, and thus qualifies for inclusion in figure 1), total local expenditures (at .59), and per capita state intergovernmental revenues (at a definitely non-collinear .24).

Total local per capita expenditures was excluded from figure 1, by the way, because it was collinear with per capita education expenditures (at .78). Per capita state education expenditures was also collinear with state intergovernmental revenues (at .59). State intergovernmental revenues was barely below collinearity with per capita total local expenditures (at .42).

Table 4. Intercorrelations of Various Locality Budget Categories, 166 U.S. Northeast Counties, 1977.

	PCAP Tot E	PCAP HiWay	PCAP Educ	PCAP Welfa	PCAP Secur	PCAP Healt
PCAP Tot E	1.0000	0.5890	0.7750	0.8512	0.7328	0.5124
PCAP HiWay	0.5890	1.0000	0.4486	0.5228	0.2942	0.0615
PCAP Educ	0.7750	0.4486	1.0000	0.5934	0.3479	0.2318
PCAP Welfa	0.8512	0.5228	0.5934	1.0000	0.5736	0.4165
PCAP Secur	0.7328	0.2942	0.3479	0.5736	1.0000	0.3846
PCAP Healt	0.5124	0.0615	0.2318	0.4165	0.3846	1.0000
PerCapState Intergovernmental Revenues	0.4208	0.2439	0.5935	0.5498	-.1184	0.1823

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In any case, local government expenditures indicators form a lopsided block, with most indicators being collinear, a few near collinearity, and one correlation being well below collinearity.

Since they are so collinear, the expenditure indicators cannot stand entirely alone. Still, the two expenditure categories show only a little variation between their Pearsonian correlations in table 2 and their beta coefficients in figure 1. Such a condition indicates that the expenditures represented in figure 1 are not so collinear that they seriously affect the betas. Even in the Pearsonian correlations, highway expenditures (at .57 in table 2) far outweighs the education expenditures (at .25) and the others in correlating with local fiscal stress, just as it does in figure 1.

In fact, the amount of variance explained by highway expenditures outweighs all the others combined, including state intergovernmental revenues and per capita expenditures for education. That, in table 3, per capita expenditures for education adds nothing to sequential variance explained (R-square) probably reflects the collinearity with per capita highway expenditures.

In any case, high local government expenditures undoubtedly represent the greatest contributors to local fiscal stress, with the largest amount among them being attributable to highway expenditures. No matter on what basis of assessment (whether from the correlations of table 2, or the regression analysis of figure 1), highway expenditures outrank the others in overall contribution to R-square. Per capita expenditures for education (and, indirectly, then, welfare and total local expenditures) explain well less than half as much as the amount explained by per capita highway expenditures.

The one correlation which shifts between table 2 and figure 1 is the coeffecient associated with per capita state intergovernmental revenues. Its Pearsonian correlation in table 2 is .08 with local fiscal stress, while its beta in figure 1 is -.15.

This reversal of direction of relationship is probably caused by the collinearity of state intergovernmental revenues with per capita local educational expenditures at .59--states return a lot of money to localities in order for them to help pay for their students' education, as well as for welfare. Since per capita education expenditures correlate more highly with local fiscal stress at .25 than state intergovernmental revenues at .08, education

accumulates some of the effects of intergovernmental revenues in its beta (just as highways might have accumulated some of education's effects). Then, when the effects of education are taken into account, the effects of state intergovernmental revenues changes sign from low positive to low negative.

The change in sign is reasonably important. Whereas the Pearsonian correlation in table 2 left the impression that state intergovernmental revenues were contributing to local fiscal stress, the negative coefficient in figure 1 implies that state intergovernmental revenues actually decrease fiscal stress when the various types of local expenditures are controlled. In other words, state transfer payments are established in such a way that in general they reduce inequalities in fiscal stress between localities rather than increase them. The latter is certainly a more socially just distributional policy than the former. This also represents one set of correlations where, when all other variables are controlled, the "raw" Pearsonian correlations are misleading compared to the "final" beta coefficients.

The next most important set of variables affecting local fiscal stress are those associated with local politics. The two political variables remaining in figure 1 (from the dozen initially considered) also contribute a share, but a relatively smaller share, to explaining local fiscal stress.

Figure 1 shows that higher participation by people participating in Presidential elections (and, presumably in local political affairs) apparently contributes to greater local fiscal stress. As noted in Section III, a possible interpretation of this finding is that greater local political participation probably represents an underlying dimension for greater "demands for services" being placed on local officials. Such demands may then be translated into larger local spending programs in a variety of budget categories, which in turn contribute to greater local fiscal stress.

The other local government variable in figure 1 is associated with the idea of more centralized government. Mayors who control the budget process with less accountability in committees prior to the presentation of the budget apparently work in localities with, and may themselves be contributing to, greater local fiscal stress.

Studies from Hawley (1963) through Molotch (1976) indicate that, when local government decisions are more centralized into the hands of a single person, or a small group of persons, then these governments are more likely to act in terms of special local interests rather than the community as a whole. This theory is also consistent with these data on local fiscal stress.

It should be noted, however, that this one indicator is the only political structural variable which shows such correlations among the dozen which were included in initial runs. Moreover, this variable is not collinear with other political structural variables. Some of the other variables initially tried included an index of reform government, two pluralism-concentration indices, a competition-participation typology (which was collinear with the participation variable above, at .76, and where the type receiving a low score of one was theoretically, but not empirically, collinear with the mayor's budget role), extent of local party competition, and so forth. None of these variables reached statistical significance when controlling for the other variables in figure 1.

Still, that mayors who have more power in the local budget process might be contributing to higher local fiscal stress, even when controlling all the other significant variables, may be imporant for local policies. Such a political structural component can also be changed by local option, perhaps more easily than the strictly financial components of local stress.

The next largest contributor to R-square is the (recoded) rural-suburban-metropolitan typology. This variable explains almost 10 percent of the overall R-square. Smaller, more remote rural counties clearly experience greater local fiscal stress than other types of localities. Consequently, they probably need more relief than others. They are the localities which give greater effort in the face of less capacity than the other localities. The most rural counties are also the ones which, in general, spend more per capita on highways (though at a weak .06), although spend less per capita on education, welfare, security, health, and, thus, spend less overall on a per capita basis, with most of these correlations in the -.20+ range. Still, the findings behind figure 1 clearly show that smaller rural counties have greater local fiscal stress than metropolitan counties.

Then, of course, a low contribution to R-square, around four percent, comes from the issue of local needs (crowded housing, which is also collinear with unemployment at .48, and with families in poverty at .79--see table 5). It is informative that the use of crowded housing as an indicator of this block was statistically significant with the measure of local fiscal stress when controlling for the other variables in figure 1, even if in table 2 it was statistically nonsignificant, at -.00, without these other control variables. Such a finding probably reflects the situation that any indicator of a block takes on the causal influences of other indicators in the block.

Table 5. Intercorrelations of Need-Condition Indicators, 166 U.S. Northeast Counties, 1980.

	Med Family	%Families	%Unemploye	%CrowdedHs
Med Family	1.0000	-.7723	-.6659	-.4483
%Families	-.7723	1.0000	0.6301	0.7856
%Unemploye	-.6659	0.6301	1.0000	0.4771
%CrowdedHs	-.4483	0.7856	0.4771	1.0000

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Apparently, then, some local officials are trying to respond to such local needs by spending more when they do not have adequate local capacity, with the result that their localities experience greater fiscal stress. The issue of expenditures for welfare, in the education block, may be a parcel in this response. Still, the contribution of per capita highways is so overwhelming in this model that to focus on needs as contributing to local fiscal stress is only barely plausible, even if, apparently, it does happen to some extent. Moreover, since unemployment, poverty, and poor housing are often so visible in localities, it becomes more plausible that the crowded housing indicator as representative of a "needs block" should be included as statistically significant in the final model of figure 1.

The other contributor to local fiscal stress plays one of the two roles (along with state intergovernmental transfers) of contributing to lower fiscal stress. Per capita manufacturing payroll in localities, according to figure 1, comparatively tends to keep counties out of local fiscal stress. Although this variable explains only about five percent of the variance explained, such a finding supports the popular strategy of many communities which seek expansion of their local manufacturing base to obtain relief from their fiscal stresses.

Such a strategy, when successful, tends to take the burden from local property taxes on individual families as the primary (or only) basis of local government expenditure support. One suggestion for further research on this topic would be to identify more precisely the extent to which local taxes are supported by individual households in comparison to the local support received from local businesses and manufacturing. Such a finding will be especially important as U.S. localities continue to move toward fewer manufacturing jobs as a proportion of the total labor force.

In general, then, these eight variables are understandable as contributors to explaining over fifty percent (and up to almost two-thirds) of the variance in the important policy-related concept of local fiscal stress. Moreover, that the variables also fit the "normal science paradigm for community research" is informative about the value of a local political economy model in offering viable orienting concepts. Although by definition most of the variables in figure 1 are not collinear with each other--that is, they are correlated at less than .50--the general configuration of the model suggests an examination of indirect effects of these variables on each other. Let us, then, turn to the issues of indirect effects based on the model in figure 1.

Indirect Effects in the Overall Model. The basic indirect effects of this path-type model--those using only the statistically significant variables in figure 1--are presented in figure 2. For readability, figure 2 does not include the arrows of direct effects from figure 1. Thus, although the dependent variable of local fiscal stress looks lonely on the right-hand side of the diagram, we know from figure 1 that every variable in the model is also related to local fiscal stress.

As expected because so few variables are included in the model and because the ones which are included are non-collinear by definition, the R-squares on the intervening variables are not high. The highest is the .38 on per capita education expenditures, which was expected because it is collinear with state intergovernmental revenues to the locality. As noted above, most Northeast states do return a reasonably large proportion of funds to localities for educational uses. The other R-squares are all below .20.

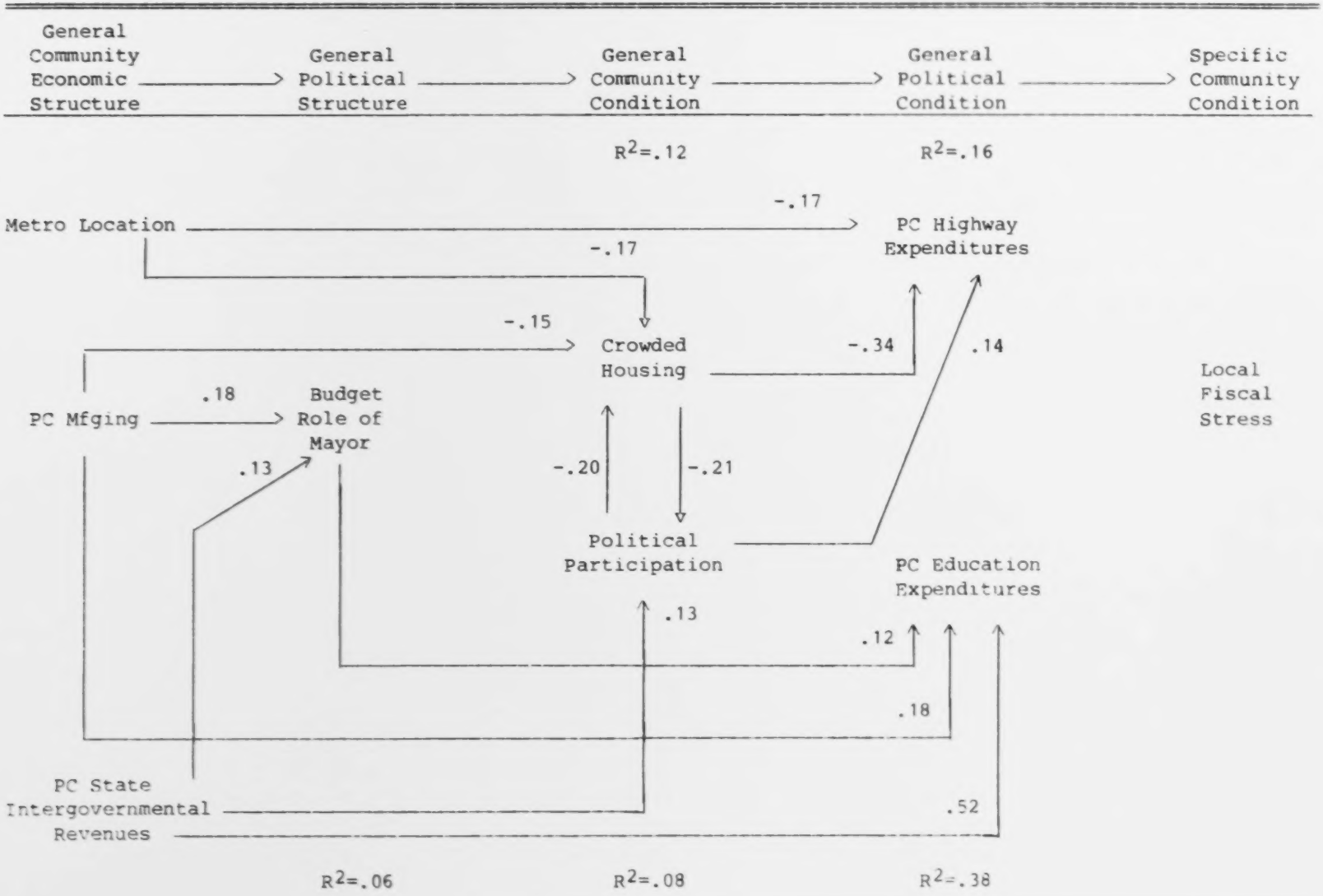
The multiple arrows in figure 2 show that a considerable number of indirect effects do occur among the variables explaining local fiscal stress. Still, the level of interrelation is quite low, and the amount of variance explained due to indirect effects is virtually negligible. Most of the relationships do not exceed .20.

The substance of the indirect effects fits well with most of the findings in figure 1. For instance, in keeping with generally poorer conditions in rural localities, figure 2 shows that rural locations have more crowded housing (at a -.17 beta), and that rural counties also spend more on highways, at -.17 (when controlling for all these other variables).

Moreover, it is understandable that political participation is greater where crowded housing (and its block of unemployment and poverty) is less. In the first place, poorer people are less likely to participate in political affairs, and in the second place, where more people participate they may be more likely to develop programs to deal with crowded housing conditions. Thus, the -.20 loops between crowded housing and political participation are also understandable.

What is less understandable is that crowded housing is negatively related to highway expenditures, at a relatively strong -.34. It may be that the block of variables dealing with need conditions represented here by the crowded housing indicator depresses the ability of localities to put greater expenditures into roads and highways. When a county experiences greater than average unemployment, family poverty, and crowded housing, it has fewer resources to put into certain budget categories which are not mandated by the state.

Figure 2. Reduced Model* of Indirect Effects on Local Fiscal Stress, Northeast U.S. Counties, ca. 1980.



*Variables included in the model are only those with significant direct effects on Local Fiscal Stress; the reduced model are those which are statistically significant at P=.10 or less.

A similar interpretation would fit with the lack of relationship of these need variables and per capita education expenditures (which is also collinear with welfare). Most Northeast states mandate that localities maintain certain local standards regarding education and welfare, so that localities have fewer discretions in dealing with these budget categories. Thus, the relationship does not reach statistical significance between crowded housing and per capita expenditures for education, and hence no causal arrow is found in the model of figure 2.

On the other hand, political participation does have a small causal effect, at .14, with highway expenditures. As was reasoned in the previous section, more political participation probably indicates greater local demand for at least certain types of services, and this demand is reflected in greater per capita highway expenditures.

The other indirect effect is the one between per capita manufacturing payroll and a strong budget role for the mayor (at .18). A strong, relatively centralized manufacturing sector in a locality tends also to produce a relatively strong special interest group in a locality (Aiken, and Mott, 1970, passim.; Goodman, 1975; Gaventa, 1980; Domhoff, 1983; Friedland, 1983; Hill, 1984). Through one means or another, such centralization in the economic sector apparently tends to obtain centralization in the political sector, even if at the relatively low .18 level. It is possible that a strong centralized mayoral office can also more effectively obtain certain types of state intergovernmental transfer funds (shown with an arrow--in reverse--in figure 2 at .13).

In general, then, the indirect effects shown in figure 2 are quite consistent with the reasoning presented above in the discussion of figure 1. Even if the beta coefficients are not impressively high, they do provide added support for the political economic model developed to understand and explain local fiscal stress.

IV. POLICY IMPLICATIONS AND CONCLUSIONS

Several implications for both local and state policies follow from the models of figures 1 and 2. These models are amalgamated and summarized in figure 3. In general, policy implications look at the major causal variables to ascertain whether they have positive or negative effects on the dependent variable, and then to devise schemes to affect the causal variables in such a way that the negative aspects of the dependent variable are ameliorated (cf. Stokey and Zeckhauser, 1978).

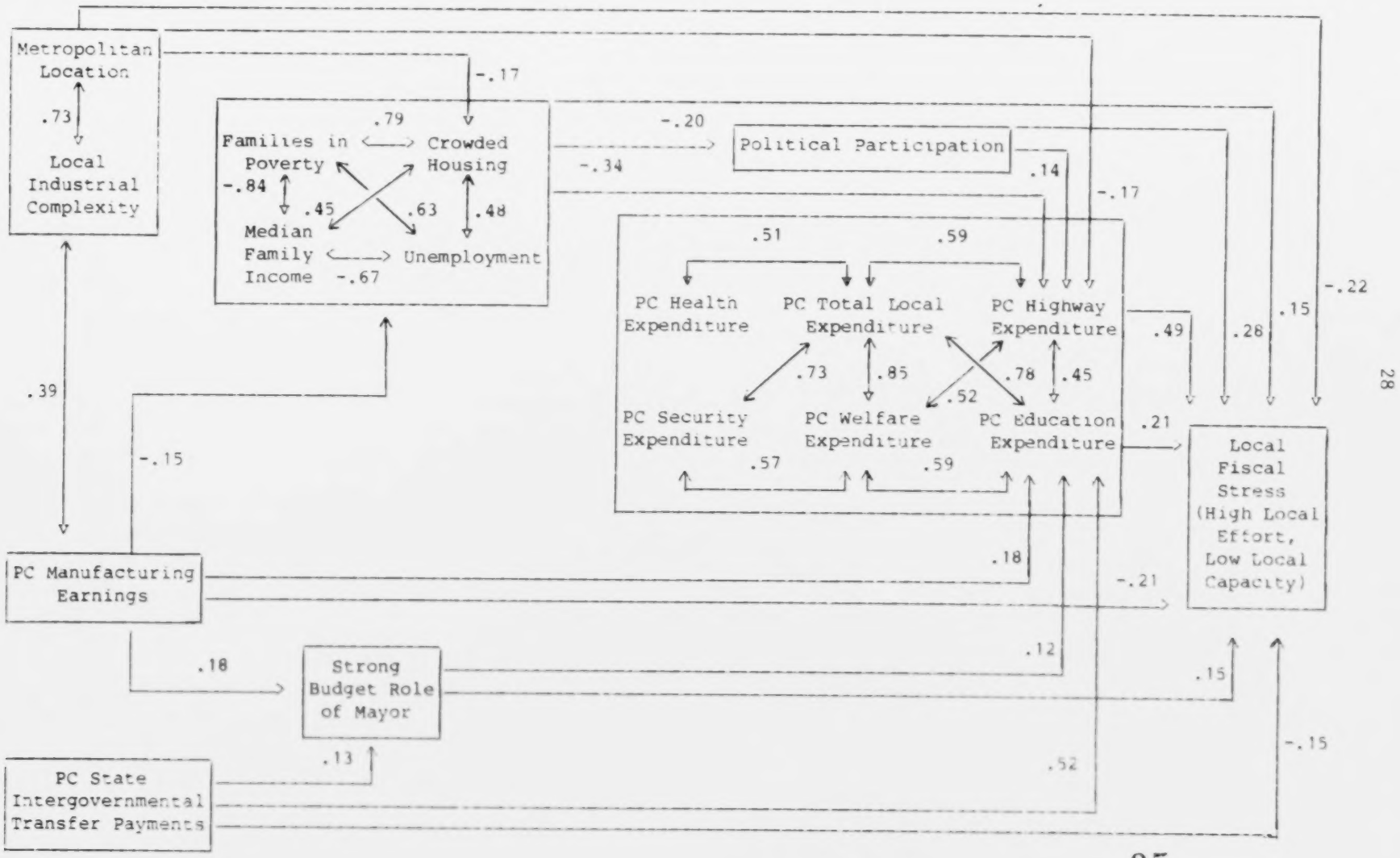
The first policy implication from figure 3 stems from the fact that, clearly, the most important variable affecting local fiscal stress is highway expenditures. By itself, this variable explains almost one-third of our measure of local fiscal stress. It may be the case that, if state governments would offer more aid to counties in their per capita highway expenditures, then the fiscal stress of many counties would be much relieved. To devise some formula for dealing with a sharing of these expenditures in such a way that they would also reduce the fiscal stress of the most stressed counties would be a significant step in ameliorating these stressed conditions.

A second policy implication based on the model in figure 3 is to offer a similar suggestion for dealing with education expenditures. Despite that states transfer significant amounts of funds to most counties in the U.S. Northeast to be spent on education, according to figure 3 these funds are apparently not adequate to reduce local fiscal stresses in counties. The beta of .21 indicates that, in counties where per capita education expenditures are high, fiscal stress is also high. This condition may occur due to the confluence of budgets of several different jurisdictions within a county, for example, the local school board, the city council, and the county commission (or legislature).

More analytic details on the actual processes in localities by which these causal paths work should be sought, however. One problem is that per capita education expenditures is collinear with other variables in the local expenditures block of variables, particularly with welfare. It may be that welfare expenditures--in addition to, or instead of, education expenditures--are also not being equitably re-distributed to their counties by states, so that the causal arrow in figure 3 might be slightly misleading. Still, apparently, states do not pick up all the funds necessary for counties to handle state-mandated programs, and this situation should be ameliorated in order to reduce fiscal stress on localities (cf. Schmidt, 1986).

A third implication for state policies concerns the effects of the counties' locations. The -.22 coefficient in figure 3 shows clearly that, in general, rural localities suffer from more local fiscal stress than metropolitan localities (including even the largest of the metropolitan localities, which were recoded in our dataset to be adjacent to the rural localities in their scale scores). Smaller metropolitan counties and the more populated counties suburban to metropolitan counties have less local fiscal stress than the others.

Figure 3. Block Path Model of Local Fiscal Stress, 166 Northeast U.S. Counties, 1980.



If state (and national) governments wish to implement policies which will create more distributive equality and justice, then, they must pay attention to the conditions of capacity, need, and effort existing in rural localities. Rural counties often have no viable economic base (the correlation with per capita manufacturing is -.39, indicating that rural counties do not have as viable manufacturing among their economic activities). In fact, many do not have viable agriculture either--per capita farm earnings is -.16 with the most rural counties. The most rural counties are hillsides, trees, and shut-down mining and lumbering operations in the Northeast.

Yet many people continue to live there, want to live there, and are necessary to live there in order to make use of a variety of natural resources in our modern society. To subsidize them from state or national government funds may not seem like a worthwhile solution. But to make programs available specifically for rural people and places, as they are often made available for urban and suburban people and places, at state and federal expense (as in subsidizing highway construction, housing, and other forms of economic development), may also help to alleviate some of the heavy fiscal stress which rural counties experience.

Figure 3 also has implications for local policies as well as state and national policies. The major locally manipulable variables in the model are those of voter participation (.28) and the budget role of the mayor (.15). Mayors with strong and singular roles in formulating local budgets are more likely to live in counties with more local fiscal stress. It is quite farfetched to blame the mayors for this condition. But, if other formal political jurisdictions within the county give parallel authority to their chief elected officials, then it is not so farfetched to blame the local formal political structure for local fiscal stress.

Such centralization of authority in the hands of a single individual permits situations to generate which have less formal accountability built into them, with consequences that some budget-saving strategies may not be thoroughly investigated (cf. Dahl and Lindblom, 1953; Lindblom, 1977). Conditions of local pluralism, with their many centers of influence, so pluralist theory goes, are much more likely to explore all possible avenues for budget shortfalls (presumably including a local tax increase, however) than conditions of local formal centralization of authority.

Still, other measures of local pluralism did not have similar effects on local fiscal stress, even though they did not have collinearity with the strong mayoral budget role variable. It may be the case, therefore, that budget roles are more important than these other sorts of pluralism (or centralization) in affecting local fiscal stress. Or, it may be that this relatively weak beta coefficient, at .15 in figure 3, is itself coincidental rather than real. We prefer to follow pluralist-centralist theory in interpreting this finding, but we recognize that, as scientists, we must also be open to the coincidentalist interpretation.

The other implication for local policy centers on the effects of political participation in the model of figure 3. The strong .28 beta explains enough variance in local fiscal stress that the effects of this variable cannot be taken lightly. The beta also infers that more local political participation, at least in terms of voting in Presidential elections, creates more local political demand for services, and hence moves some counties toward greater local fiscal stress.

Such a finding puts researchers who recognize the generally beneficial effects of pluralism--with high participation rates as one pluralist component--on the horns of a dilemma for an interpretation. High participation is good for democracy; yet it also seems to produce greater local fiscal stress, which might also be "bad" for local governments' democracy.

Two alternatives may be followed in resolving this dilemma. First, since democracy requires two essential conditions--high participation by individuals, but also high competition between parties (cf. Neubauer, 1967)--a first consideration toward a resolution is to assess whether the high participation and high-stressed counties are also those with lower competition. Initial data runs on this issue indicated that competition is not statistically significant with participation or with fiscal stress. But no next steps toward multivariate analysis were undertaken.

If high participation occurs without adequate competition in affecting local fiscal stress, then the interpretation may be that a "high participatory, one-party domination" may be affecting local political structure. If this would be the case, then the centralization-effects interpretation offered above about mayors' budget roles, with its lack of pluralist accountability in seeking alternative local strategies for handling local budget crises, would also apply here.

A second step in resolving this dilemma is to assess whether the level of public services offered in the high participation counties are at similar or higher levels compared to those in other counties. It is possible that certain counties, especially those with local one-party domination, are actually paying more for similar levels of services than are those where more political competition might be occurring. Again, in order to examine this situation in more detail would require further analysis in future research.

If either of the above conditions would happen to occur, then a resolution to the local fiscal stress problem would be to undertake structural resolutions which could contribute toward creating more local competition and accountability of local political elites. Such a resolution is not easy to implement, but it can perhaps be initiated through something like instituting some "advisory boards," composed of citizens from various social strata, for a variety of local agencies (cf. Clavel, 1986). The issue may not be that political participation is detrimental to local fiscal stress. The issue may be, instead, that the quality and type of participation established locally may not be adequate to keep local decision makers on their toes.

A third local strategy, based on the model in figure 3, would be to pursue a local manufacturing industrial policy, in the hope of increasing the local manufacturing economic base. Figure 3 shows that more viable manufacturing in localities results in less local fiscal stress (at a statistically very significant -.21).

Such a policy, however, does not necessarily mean that localities should engage in "smokestack chasing" (cf. Summers and Selvik, 1979; Bluestone and Harrison, 1982 or "beggaring their neighbors" (Kelly, 1983). Such industries can leave localities just as easily as they can come in, sometimes after having "externalized" many of their costs onto the locality (cf. also Wimberly et al., 1986, passim.). But the findings in this model clearly indicate that, despite those like Bluestone and Harrison who are very cautious in asserting anything laudable about manufacturing firms, localities with more viable manufacturing bases have fewer local fiscal stresses upon them. Perhaps the conventional wisdom is not incorrect in its overall generalization, but it could be incorrect, of course, in any specific case.

A possibly important policy for rural localities, especially, and other localities too for that matter, might be to try to develop some appropriate indigenous manufacturing through local "incubators" or "import substitution" (cf. Richardson, 1973). The economic structure

of localities changes relatively rapidly (cf. Eberts, 1984), and some opportunities may be available locally during one decade which were unheard of in a previous decade. Such strategies are not implementable automatically, but with persistence they can be successful (cf. Goodman, 1979; Kuhn, 1986).

In summary, the present study has examined one measure of local fiscal stress, through constructing a typology based on the theoretical construct that local stress is defined by low local capacity, high local need, and high local effort. Variables to explain this measure through multivariate analysis were obtained through, or at least were compatible with, a "normal science" political economic paradigm for communities. These variables were also found to have policy implications, which could be implemented by any level of government jurisdiction--federal, state, or local--concerned to deal seriously with local fiscal issues.

Since the variance explained by these variables was reasonably high, and since nearly every variable could be manipulated through public policy at one level or another, it would seem that the matter of local fiscal stress may be more of a problem of local political will than of developing entirely new paradigms for analysis. Some further analyses are needed, both to check the actual processes through which the independent variables actually affect local fiscal stress (rather than to accept uncritically the interpretation offered here), and to check the extent to which the model developed here is applicable to localities other than the ones used in this sample. The direction of this analysis, therefore, seems viable and can perhaps be followed profitably by other researchers who wish to understand and reduce fiscal stress in their localities.

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